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AGRICULTURE

No. 200

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NATIONAL

I. GENERAL INFORMATION

SOME ACHIEVEMENTS, PROBLEMS IN APPLYING AGRICULTURAL ZONING EXAMINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 28 Jan 82 p 2

[Article: "Initial Success Achieved in Natural Agricultural Resources Survey and Agricultural Zoning. Provide Scientific Basis for Agricultural Production"]

[Text] For more than 2 years, a survey of natural agricultural resources and agricultural zoning work has been underway in the 1,380 counties of the country's 29 provinces, municipalities, and autonomous regions. Now 277 counties in 22 provinces, municipalities, and autonomous regions have put forward preliminary programs for agricultural zoning. The special resources survey and zoning done by pertinent units of the State Council, as well as comprehensive on-site investigations may in some key areas have also shown results at various stages, and the beginning of their use in agricultural production has brought remarkable results.

As a Result of the Survey of Natural Agricultural Resources, a Preliminary Understanding Has Been Obtained of the Wealth of Some Resources, Providing a Scientific Basis For the Guidance of Agricultural Production. While focusing on doing a good job of surveying land resources, all areas have made preliminary surveys of varying scope of the distribution in time and space of sunlight, heat, water, and gas, the quantity and quality of surface and ground water, kinds, varieties, and characteristics of domestic and wild animals and plants, and analysis of major crops, farming systems and environmental conditions. This has provided large quantities of resources data and scientific and technical results for the equitable use of agricultural resources, for playing up strengths and playing down weaknesses, and for making the most of resource advantages. Leadership comrades in the Dayi County CCP Committee in Sichuan Province diligently summarized the lessons of past experience in agricultural production of "arbitrary uniformity," and "blind guidance," and since 1978 they have acted realistically, investigated and studied, and have launched zoning to master and understand natural resources in the heavens, on the ground, and under the ground, as well as social and economic conditions to achieve a clear understanding of what they have to work with, a distinct direction, an accurate sense, good attention, and unified perception that has improved the scientificness of guidance to agricultural production. For several years, the county's grain output has risen year after year, and gross income from farming and sideline occupations was almost double in 1980 what it had been in 1978.

Application of Zoning Results and Adaptation of General Methods to Local Situations For an Equitable Readjustment of the Structure of Agriculture, Arrangement of Crop Patterns, and Improvement in Farming Methods. Wugong County in Shaanxi Province is located in a marginal area for the growing of cotton. Natural conditions provide no assurance for the growing of cotton, so in 1981 20,000 mu of cottonfields were converted to the growing of rape for which the area is suited. The county had an almost 7 million jin increase in its grain harvest, and 1.5 million jin of edible oil. Zunhua County in Hebei Province is located on the northern fringe of the late ripening wheat growing region where quantity of heat is insufficient for the growing of two crops. When formulating zoning plans, the county proposed an appropriate reduction in its wheat acreage and an expansion of its spring corn growing area for partial revival of a system of three crops every 2 years. In 1980 the area sown to wheat was reduced by 500,000 mu. As a result summer grain output decreased, but autumn grain output increased, grain output for the year as a whole still increasing by 65.16 million jin over the year before.

Combining Systems of Responsibility for Agricultural Production With Use of Policies and Economic Methods to Arouse the Enthusiasm of the Masses To Advance Application of Zoning Results. Ji County in Shanxi Province provided some successful experiences in this regard. They applied the methods of sole and complete contracting, contracting for individual projects, several kinds of contracts with a single worker, contracting small portions of large jobs, and contracting work with specialized households (or individuals), combining agricultural zoning with systems of responsibility for production, concretely applying the programs, principles, and plans provided by zoning to communes and brigades, people, plots of land, and implementing a system of rewards and penalities, which aroused the enthusiasm of the masses to rely on science for the development of production. In this county forestry and livestock raising predominate. During the past 3 years, the county has afforested 340,000 mu and planted 700,000 mu of grass. Farming, forestry and livestock raising have seen all-around development, and initial improvements have taken place in the ecological environment.

Proceeding from Realities and Taking the Measure of Ones Abilities For Gradual Expansion in Application of Zoning Results. In the application of zoning results, all jurisdictions made sure to come to grips with major impediments and took firmly in hand key steps and problems for which the masses urgently required solutions, to use projects requiring little investment that produced results quickly and from which benefits were great as breakthroughs for setting up a situation for application of results, acquiring forces and accumulating experiences for expanding application of zoning results. In 1979, Tunliu County in Shanxi Province used zoning to work out a whole series of programs for curing poverty and becoming prosperous. In the process of application, they discovered the following situation. No trees had been planted in the area zoned as a forest area; no cattle, sheep, or goats were raised in the area zoned for animal husbandry; and no reversion had taken place in the area zone for a halt to cultivation for reversion to forests. When asking the reasons, the masses said, "If we plant trees and revert to forests, what will we eat?" They also asked, "Who will the planted trees belong to?" This showed that when the masses are without money or grain, it is impossible to implement zoning results lock, stock, and barrel. Inasmuch as this county has a sparse population relative to land, and little accumulated wealth, the County CCP Committee decided to place emphasis first on increasing the land utilization rate and the rate of productivity, projects that could be put into effect at little or no expense. First they turned to matters with a short turnaround time where results were quick to be seen, and which required little effort, combining the longrange, the intermediate, and the shortrange making way for the longrange and the longrange giving impetus to the shortrange for a gradual advance, moderating the contradictions in implementation of the results of zoning to arouse the enthusiasm of the masses.

9432
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RURAL SPECIALIZED CONTRACTING METHODS EXPLAINED

Beijing HEBEI RIBAO in Chinese 13 Jan 82 p 2

[Article: "How Can the System of Responsibility of Specialized Contracting With Remuneration Linked to Output Be Improved?"]

[Text] Question: What is the system of responsibility of specialized contracting with remuneration linked to output?

Answer: Specialized contracting with remuneration linked to output is a system of responsibility for production whereby production brigades and production teams institute a specialized division of labor under unified administration, contracting by individual trades, and linking the calculation of remuneration to output. The basic practice in specialized division of labor in such a system of responsibility is one of "four specializations and one link," meaning that production brigades or production teams practice specialized contracting with groups, teams, households, or individuals, linking calculation of remuneration to output.

Question: How do brigades that practice specialized contracting differentiate individual trades? How do they organize the employment of workforces?

Answer: First of all, production brigades and production teams have to proceed from the existing foundation of division of labor among individual trades, and on the basis of local natural characteristics and economic conditions, set production projects to be engaged in on the basis of the individual brigade or team's natural resources, labor resources, and technological situation, and equitably differentiate individual trades including farming, forestry, livestock raising, sideline occupations, fisheries, processing industries, handicraft industries, businesses, and transportation industries. On the basis of the division of labor among individual trades engaged in production, and in accordance with the amount of labor available, specific numbers of people are assigned to individual trades in an equitable arrangement of workforces. In accordance with the principles of furthering production and benefiting operations, specialized groups and teams of different sizes are established. When individual households can do the job, specialized households are established; when work requires certain skills that individuals have, specialized individuals are established. When apportioning workforces in individual trades, distribution must be done equitably in accordance with special skills and strength of workforces. If skills for a specific trade exist, that trade will be engaged in, and whatever kinds of work can be done; those good at agriculture working in agriculture, and those good at industry working in industry, each contributing to the full extent of abilities. Generally speaking, a single member of the workforce contracts in only a single trade, or possibly primarily in a single trade with simultaneous contracting in another as well. When a family has several members in the workforce, it may engage in both agriculture and in economic diversification. Once a specialized division of labor has been made, a relative consistency must be maintained among the various workforces; there can be no jumping around from one to another. Odd jobs and work requiring collective labor that do not lend themselves readily to specialized contracting year after year can be arranged for in a uniform way by brigades and production teams through the practice of contracting work on small job segments or contracting for temporary labor.

Question: How can specialized contracting in agriculture with calculation of remuneration linked to output best be done?

Answer: Specialized contracting in agriculture with calculation of remuneration being linked to output means change from the way of doing thing whereby everybody contracts the farming of land in a unitary system. It concentrates those expert in farming in farming, using some of the agricultural workforce to produce more farm products. Different forms of specialized contracting with calculation of remuneration being linked to output are used depending on natural conditions and crop patterns in individual brigades or production teams. Vocational teams may be designated for specialized contracting in specific field plots, or vocational teams may be designated for specialized contracting in wetlands, drylands, and slopes, or teams may be designed for specialized contracting of different crops such as cotton, wheat, oil-bearing crops, or vegetables. Alternatively, specialized teams may be designated for contracting during summer and fall. Where production brigades are the accounting units, a system may be adopted whereby production brigades specialize in the running of industrial sideline occupations and economic diversification, production teams devoting themselves primarily to farming, with the practice of specialized contracting, calculation of remuneration being linked to output.

Question: How is specialized contracting done for forestry, livestock raising, sideline occupations, and fisheries? What specific methods are used?

Answer: Contracting of collectively owned forest tracts, orchards, and nurseries should be done with groups or teams, with the practice of "several fixeds and one reward," or proportional division of earnings. Alternatively, a method whereby contracting work with payment of profits to higher authority may be practiced. Collectively owned cattle herds, hog farms, chicken farms, marten farms, and bee farms should practice specialized contracting farm by farm and brigade by brigade, using a method of fixed output (or value), fixed amounts of fodder, fixed expenditures, fixed remuneration, and fixed rewards and penalties, calculation of remuneration being linked to output. Brigade operated industrial sideline occupations can generally institute fixed quotas (for quantity, quality, and output value of goods), fixed costs, fixed consumption, fixed profits, fixed workpoints, and fixed rewards and penalties. They may also institute independent accounting, sole responsibility for profits and losses, contracting of work tasks for profits, or division of profits, and such methods.

Specialized contracting done by a small number of producing units that operate at a loss and collective welfare units (such as superior variety propagating farms, childrens nurseries) may use systems such as "independent accounting, fixed remuneration, fixed subsidies, and reversion to the unit for its own use of any savings effected or increased earnings."

Question: How are relationships pertaining to economic benefits among individual contracting units handled?

Answer: Within any given production team, no matter the individual trade contracted for, remuneration to labor is the same overall for accomplishments by equal workforces, equal skills, and equal work. The small number of people possessing special skills may be provided a skills subsidy. Tasks contracted for, work remuneration, and rewards for individual trades are to be set equitably on the basis of labor quotas. For specialized trades requiring large investments of labor that have low output value and a small amount of output in excess of quotas, proportional rewards may be set a little higher. Conversely, proportional rewards should be a little smaller. Economic dealings among specialized trades should adhere to the principle of exchanges of equal value. When production brigades transfer workforces from production brigades to engage in specialized production, they are to pay production teams an equitable remuneration. Within individual specialized teams and units, distribution according to labor must be adhered to, the greater the work the greater the gain, with adoption of flexible and diverse methods of calculating remuneration. Remuneration may be calculated on a piecework basis, or it may be calculated on the basis of output, output value, or net profit. Work contracting with payment of profits to the state in a system of specialized contracting may be practiced, or contracting of small segments of a larger task for a fixed sum may be practiced.

Question: How is unified accounting and distribution done?

Answer: All units that do specialized contracting are to assure, in accordance with contracts, fulfillment in turning over to superior authority all products (such as grain, cotton, edible oil, livestock products, forestry products), income, and profits. Then the production team makes a uniform accounting and distribution. Once the production team has made an accounting, that portion in excess of production quotas to be used as rewards may be directly withdrawn by the specialized groups, teams, or households. That portion reverting to production teams for uniform distribution may be distributed to commune members after benefits to the state, the collective, and individuals are taken into consideration and necessary deductions for the collective are withheld following satisfaction of state requisition and quota procurement. Methods of distribution are largely of the following several kinds. (1) Distribution according to the amount of work agreed upon at the beginning of the year by individual specialized trade contracting units. (2) Distribution according to workpoints calculated on the basis of output or output value. (3) In the case of those units practicing independent accounting with sole financial responsibility in specialized contracting, after fulfillment of payment in goods and profits, all goods or surplus earnings remaining are distributed within the unit. (4) Production teams with great economic income and high levels of distribution may practice a wage system in which each specialized team or unit makes distributions to commune members who participated in the unit's specialized work, mostly on the basis of work points, but with material rewards and commendations going to commune members who made a great contribution.

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MANAGEMENT OF SCIENTIFIC-TECHNICAL RESEARCH, PROMOTION DISCUSSED

Tianjin KEXUEXUE [SCIENOLOGY] in Chinese No 5, 20 Oct 81 pp 32-34

[Article by Zhao Fei [6392 7236], Xinxian Prefecture Science Commission, Shanxi: "Several Problems to Be Settled Promptly in Management of the Extension of New Agricultural Techniques"]

[Text] Recently some surveys were made regarding the spread of new agricultural techniques in some counties of northwestern Shanxi Province from which it was realized that the increasingly widespread application of some new agricultural techniques and implements played a definite role in development of agricultural production. However, because of the existence of quite a few problems in scientific and technical management work and for reasons in other regards, numerous achievements had not been translated into productivity, causing needless losses in manpower and financial resources. Why is it that some projects requiring a short period of research and development were well promoted for application, while a large number of projects have taken a lot of time, wasted a lot of funds, and have produced miniscule results? These questions should be conscientiously studied and the lessons of experience absorbed.

I. Some Problems in the Promotion of New Agricultural Techniques

Statistics show that since cooperativization almost 1,000 new techniques of various kinds have been tested, demonstrated, and promoted in this prefecture, yet nothing came of the promotion of most of them, which were not approved by the masses. Reasons are of many, but looked at in terms of management of science and technology, the main ones are the following.

1. Choice of Topics Was Not Geared to Actual Circumstances and Examination and Approval of Plans Lacked All Around Balance

As a result of the influence of the leftist ideological trend, selection of problems was done without consideration being given capabilities under prevailing conditions, in a one-sided seeking after a technically advanced status. As a result, projects for "catching up and surpassing" produced no results after long periods of time, and results from "projects to fill in gaps" were of shoddy quality and could not be promoted for use. One example was research and development of a Chinese yam digging machine for which numerous finalized designs had long existed in the country, requiring only that a model be selected for use and adapted to local conditions, or be somewhat improved and put to use. But a farm machinery institute and a farm machinery plant in one county, neither of which had adequate technical forces or equipment, worked out joint research and development plans. After 6 years work and expenditure of 60,000 yuan, no machine has yet seen the light of day.

Freedom in the choice of topics, everyone going his own way without communication with each other. Scientific and technical authorities in charge also selected for special emphasis some of the planned projects they received, giving the go-ahead for individual efforts on others. In consequence, forces were dispersed and projects overlapped, reducing benefits derived from investment, making it impossible to raise levels of research or to make the most of local advantages. Examples were experiments for improvement of the discharge of alkalinity from saline-alkaline land using underground conduits, and development of grain drying machines, which several places worked on at the same time, all of them being successful, and all results being about the same.

2. Slighting of Promotional Work, Scientific Research Not Proceeding From Realities for Promotion

Scientific research and promotion are organically part of a unified whole. Only when the two complement each other and advance either other can the full power of science and technology be manifested. However, for many years planned projects have emphasized research, but sources of funds and materials for promotional projects were hard to come by. Achievements were encouraged and rewarded but no encouragement and rewards were given promotion. Results of promotion did not serve as a primary basis for deciding rewards in the issuance of rewards for research project. Reportedly, of more than 400 items for which prizes were given in one place, less than 20 percent could be promoted for use.

When a certain county undertook "experimental research on high figure bumper yield planting techniques," the best plots of land were selected, lots of water and fertilizer were used, superior varieties were planted, intensive care was given, and per mu yields were very high. However, in a situation in which the local people and animals had difficulties in getting water to drink, and in which land per capita was only 10 mu or so and fertilizer averaged 6 or 7 dan per mu, the high figure bumper yield techniques that were used had not the slightest possibility of being promoted for use.

3. Insufficient Attention Given the Role of Intelligence Information

Some cadres in charge of science and technology lack basic knowledge about science and technology. They neither seriously study nor do they investigate and research. About matters such as the state of development and trends in science and technology inside China or abroad, the level of development of industrial and agricultural production in their local area, key technical problems urgently in need of solution, and local scientific capabilities, they have very little knowledge and rely for management on "thinking about what is natural." As a result, many wrong actions are inevitably taken. In the selection of topics, for example, they do not proceed on the basis of their own capabilities and real needs. They do not check to find out what reference data are available, and they do not use existing research results, but duplicate work instead. Since they do not have any comprehension of the outside world and do not know what results others have achieved, they are even unable to begin to evaluate just what the level of their own research is.

4. Neglect of the Results of Investment

The wrongheaded slogan, "figure only political accounts, but do not figure economic accounts" has caused people to do things with no concern for an economic accounting. Scientific research is exploratory and varied in nature. Many cadres involved in research management work give very little attention to benefits derived from investment. In selection of topics, they do not weigh the pros and cons, the gains and the losses; in distribution of funds, they do not do economic accounting; when work is underway, they do not supervise expenditures of funds. One project plans and fund quotas are received from above, everything is just fine, and whatever is done gets figured in. For example, for experimental research on comprehensive control of a certain basin, 290,000 yuan was invested in a period of 4 years. The funds were actually used as a subsidy for capital construction of farmland water conservancy.

5. No Strict Management System

This is manifested mostly in the following ways. In the examination and approval of research problems and programs for carrying them out, insufficient social investigation as a basis is done in advance, and at the time of examination and approval, discussion by experts in the same field is lacking, leaders frequently approving plans with a nod of their heads. Planned project targets are ill-defined; requirements are not concrete; and projects lack objective yardsticks for judging the extent of their fulfillment and for evaluation of technical levels. Distribution of operating expenses and materials is not done strictly in accordance with the accounting system and the check-up system; frequently estimates or impressions are relied upon, and sometimes things are done on the basis of personal relationships. There is no strict evaluation of results. Sometimes bonuses have been given in advance of appraisal and, in other cases, though appraisal has been made, most of those involved in the appraisal were administrative cadre, the number of those truly versed in the subject being few. Appraisal became a "victory meeting," and those engaged in the appraisal bore no legal responsibilities whatsoever.

2. A Few Ideas For Improvement in Scientific and Technical Management

In light of these problems in the field of scientific and technical management for promotion of new agricultural techniques, the following ideas for reform are put forward for joint discussion by the broad masses of scientists and technicians and management personnel on the agricultural front, and to provide a little reference for the readjustment and restructuring of scientific and technical work.

1. In the Selection of Research Problems, Promotion for Application Must Be Considered.

Most prefecture and county level agricultural research units are engaged in applied research in which the object of research is to increase effectiveness of agricultural production. If the results of this research find no application to production, no matter how much or how good the results, they amount to nothing more than a flash in the pan that play no role in productivity. The research has lost its significance.

Many years experience have shown that the performance, costs, an adaptability of research results constitute the three main elements in prospects for promotion for use. Only when performance is good, costs are low, and adaptability is strong simultaneously, can there be rapid promotion for use. If any one is lacking, it will be difficult. One example was the problem of drying wet grain in rural villages for which a grain drying machine was needed. There were numerous finalized models in the country that could be provided for use, but because the cost of making them was high, rural communes and brigades could not afford to use them. In other cases their performance was poor, or their operation a real chore difficult to master, so the masses did not want to use them. Spray irrigation techniques have many advantages over flood irrigation. The state invested 120,000 yuan in a spray irrigation pilot project that could water only 200 mu of land, and communes and brigades found this unaffordable. Solar-energy heated stys for the raising of hogs is a similar problem. Such stys have a steel framework, are all glass for natural lighting, and cost several thousand yuan to make. They are truly elegant, last a long time, and are of lasting value, but communes and brigades do not accept them. Seeds treated in high and low frequency electro-magnetic fields, soaking of seeds and irrigation with magnetized water, and humic fertilizer can all be produced at low cost, but effectiveness is neither remarkable nor consistent, so promotion for use is also very difficult.

Selection of problems for research requires both consideration of promotion for use, and must be done in accordance iwth the principles of proceeding from realities and taking account of capabilities. These "realities" and "capabilities" include both those of the research unit itself, and those of units that will use results in the future. In the process of checking research and development plans and their application, the principle of "the best possible effectiveness at the lowest possible cost" should be adhered to. This is particularly so when techniques are to be applied broadly in rural villages. In designing and testing, it is more necessary in such cases to combine the native and the foreign, do things simply and thriftily, and to lower manufacturing costs while maintaining performance. Bricks, wood, and stones should be used rather than steel, and plastic sheeting should be used as a substitute for glass. Very clearly, if manufacturing costs can be lowered while maintaining performance, there will be an expansion in the area of promotion for use, and the role of science and technology in productivity will be used to fuller advantage. China's agricultural production is today still fairly backward; rural economic strength and technological foundations are comparatively weak. In quite a few counties in northwestern Shanxi Province, grain yields amount to only about 100 jin per mu, and per capita income averages less than 50 yuan.

The rural masses urgently need advanced techniques to rapidly change their backward situation. But they are economically hard up and their technical strength is limited; it is hard for them to get what they need. This constitutes a real contradiction. In doing research, and particularly when doing research on techniques for application to agriculture, it is necessary to face this contradiction squarely, giving priority to selection of projects for which an urgent need exists in rural communes and brigades, that are low in cost, that yield quick results, and that produce large benefits. What is most needed now is the "Song of the Rustic Poor" [the simple and the plain] rather than "The Spring Snow" [the complex and the fancy]. Things that meet no real needs, that slight the native while valuing the foreign, or the insistent addition of self-monitoring or self-regulating gadgets to machinery and equipment used in agriculture that are essentially simple in operation so that they look "foreign," and which evoke a certain amount of praise when delviered but are used in very ordinary ways, and for which the cost of manufacture is shocking, have not the slightest hope of being promoted. (Naturally, in a small number of relatively advanced and prosperous regions, or on large famrs, use of some rather highly automated farm implements is also necessary and possible).

2. Restructuring of the Organization of the Management System to Insure That Research and Production are Linked to Each Other

Currently research institutes everywhere and farming (including plant production, prevention against organisms, seeds, and barnyard manure),forestry, animal husbandry, water conservancy protection stations, and such promotion units are under the leadership of different bureaus. The former are mostly in the nature of research, and the latter are mostly in the nature of promotion, each being independent and going their own way. Science commissions at all echelons that look after both research and promotion must go through each of the bureaus concerned to exercise their management function. They have no scientific and technical corps of their own on which they can lay their hands. Such an organization of the management system is disadvantageous in linking research and promotion, and seriously impedes development of scientific and technical endeavors. The planned projects and layout of work of research and promotion units are mutually disconnected; forces are dispersed, and there is no coherency. The multiplicity of leaders makes grassroots units prone to loss of self-determination, and disadvantages arousal and making the most of their enthusiasm and creativity. It is disadvantageous in strengthening leadership of scientific and technical forces.

Fairly great change in the production situation of a place most certainly does not result from the practice of some new technique, but rather from the multiple application of diverse techniques. Today this singularly constituted system or management system that organizes science and technology for separate wars cannot bring into play the tremendous role of science and technology in productivity, and is very much in need of reform. Prefecture and county farming, forestry, animal husbandry, water conservancy, mechanization, and meteorological research and promotion units should be formed into a unified "Institute of Agricultural Science," that is responsible both for conducting research and for promotion. This research institute, including its funds for research and promotion, materials and equipment would be under the unified management of a supervisory unit led by the science commission at the same echelon. (Some comrades have proposed that it should be under the leadership of the agriculture commission, and further study is required). In this way, leadership would be centralized and manpower, financial, and material resources concentrated for a close linking of research and promotion. This would vigorously insure creation of conditions for promotion of the development of scientific endeavors.

3. Reform of Methods of Making Rewards to Promote Linkage Between Research and Promotion

Even though results are important in applied research, even more important is ability to promote them for use in production. Only from a foundation of confirmed benefits from promotion for use can a genuine evaluation of results be made. Therefore, in making awards, research and promotion must be accorded equal importance. Applied research projects have to be appraised in terms of the technical level of results, the status (or possibility) for promotion for use, and economic benefits.

4. Reform of Investment Methods, and Improvement in Investment Benefits

The method whereby the state provides, without exception, investment and support to research and promotion without need for restitution not only may foster a dependent mentality of sole reliance on the state disadvantageous to the nurture of a spirit of self-reliance, but is also disadvantageous in enhancing a spirit of responsibility in units concerned, there being no keenly felt pain, and it making no difference whether things succeed or fail. Some units haggle over funds, spend freely, squander extravagantly, and turn in false reports making fraudulent claims. The existing method whereby funds are invested requires reform. In making investments, the purpose should be clear, priority going to support of those projects urgently needed for production in which investment is small, results quick, and benefits large. Priority support should be given to those units that highly regard science and technology, actively launch research and employ advanced techniques, and have fairly strong technical forces. Priority support should go to those units whose conceptions are in accord with realities, and whose implementation of programs is scientific and rational. This would both help to maximum extent in the raising of economic benefits, and would help nurture a spirit of self-reliance.

The actual methodology used for experimental research might be a combination of investment with no required restitution and investment with restitution. Depending on circumstances, some might continue to be given investment support without requiring restitution, but be stringently supervised and accountings intensified. If in the course of the experiments funds were found to be inadequate for good reasons, supplemental funds could be requested. Any overages remaining after completion of experiments should be returned. For some projects, investment with required restitution should be tried out, funds being recovered over a period of time from those experiments that produced results. In the case of promotional work, inasmuch as the techniques have already succeeded and there can only be benefits with no question of failure existing, as a matter of principle there should be no support with funds that do not have to be paid back. In the case of some large scale promotional projects, however, discretion should be used in giving investment assistance to be paid back. As soon as the techniques begin to pay off, these funds should be recovered in increments over a period of time according to the degree of benefit. For use of funds, a contract system can be used, the scope of the use of investment being made clear with all parties bearing responsibility so as to intensify a sense of responsibility and assure benefits from the investment.

5. Genuine Strengthening of Investigation and Study

If in the management of science and technology one has only a hazy idea or knows nothing at all about the level or trend of development of science and technology in China or abroad, or about the economic foundation, sources of funds, technical forces, a capabilities of equipment in one's own area, one will be unable to work out a development plan for science and technology that is realistic, nor can one effectively discharge a function as a manager of science and technology. Therefore, efforts must be made to overcome the undesirable habit formed over numerous years of superficial listening to reports, telephoning around, and issuing documents to direct work, instead cultivating a style of energetic investigation and study. Investigation and study should become a system. Leadership comrades in science and technology management units at all echelons should be a personal example, spending at least one-third of every year going to the grassroots to sound out popular sentiments, to make on-site inspections of activities for the direction of science and technology, promptly summarize experiences, and help lower levels solve some genuine problems.

6. Establishment and Perfection of a Necessary Science and Technology Management System

Science and technology management units at all echelons should, on the basis of actual circumstances, set up and perfect a needed system of management such as a system of personal responsibility for management of cadres, a system of discussions of planned projects by people in the same field, a contract system for plan implementation and organizational cooperation, and a system for appraisal and acceptance of results so as to arouse the enthusiams and creativity of every management cadre, expert, and scientists and technicians solving problems of unclear responsibility and mutual buck passing and increasing work efficiency and work standards.

7. Strive to Upgrade the Scientific and Technical Level of the Broad Masses of Science and Technology Management Cadres and to Advance Their Transformation From Greenhorns to Insiders

Major efforts must be devoted to the study of basic knowledge about management of science and technology by leadership cadres at all echelons so that they will be transformed with all possible speed from greenhorns into insiders. Leadership comrades in the Central Committee have provided us a good lead, and numerous provincial and municipal science commissions and science societies are operating study (or indoctrination) classes for science and technology leadership cadres. They are studying policies, studying vocational work, and studying techniques so that our leadership comrades at every echelon will become expert hands, with all possible speed, in the management of scientific and technical work. By this mean a brand new situation will certainly appear in management work in all trades and industries to make a greater contribution in hastening building of the four modernizations.

9432
CSO: 4007/205

BRIEFS

PROCUREMENT QUOTAS FOR NEW COTTON OVERFULFILLED--As of 10 December 1981, 47.35 million dan of new cotton had been procured throughout the country. This overfulfilled by 350,000 dan national procurement plans for the year, and was more than 3.2 million dan more than during the same period last year. Currently cotton farmers in numerous areas are continuing to sell new cotton to the state. Despite natural disasters in the form of drought, floods, and early frost in many provinces, municipalities, and autonomous regions this year, thanks to the general institution of various forms of a system of responsibility for production, and further implementation of pertinent party economic policies, which have aroused the enthusiasm of cotton farmers, national cotton output has again broken the new records set in 1980, ginned cotton output in Shandong and Jiangsu provinces totaling more than 10 million dan. [Text] [Wuhan HUBEI RIBAO in Chinese 16 Dec 81 p 4] 9432

CSO: 4007/203

BRIEFS

BOAR RAISING--The Tongcheng County Food Company is taking positive measures to encourage commune members to raise boars in order to promote hog breeding. An investigation conducted by the company at the end of 1981 showed that there were more than 10,200 brood sows and only 100 boars in the county. The number of boars is far too small to meet the county's need for hog breeding. [OW110505 Hefei Anhui Provincial Service in Mandarin 1100 GMT 6 Apr 82]

CSO: 4007/360

'RENMIN RIBAO' ON DEVELOPING FRESHWATER FISHERY

HK310827 Beijing RENMIN RIBAO in Chinese 23 Mar 82 p 2

[Commentator's article: "Build Fertile 'Livestock Farms on the Water'"]

[Text] Our country's freshwater fish farming has concluded nearly 20 years of decline and fluctuation and has achieved large-scale increases in production for 3 years running. In 1981, total output of freshwater fish for the whole country was 1.37 million tons, which was three times more than in 1978. Practice through the years has shown that in all those places where the development of freshwater fish farming has been fast, this is inextricably bound up with the fact that party and government leaders there pay attention to ideology and the fact that the important responsible comrades there are determined to do something about the scarcity of fish. In recent years, leadership over fisheries in the various localities has definitely been greatly strengthened. This is the main reason for the development of freshwater fish farming in the last 3 years.

The water surface, like land and mountain forests, is one of our country's precious resources. The area of our country's water surface is one of the largest of any country in the world. The total water surface is more than 300 million mu, of which 75 million mu is capable of breeding fish. However, for quite a long time, we concentrated solely on cultivated land, thus bringing about the abnormal phenomenon of "tracing responsibility even where 1 mu of desolate land was involved, but not where 10,000 mu of desolate water was involved. Now, the advantages of bringing the water surface into full play for breeding fish is being recognized by more and more people. "A minute pond is better than a small bank." "With fish to eat and money to spend, I can take some live fish to my in-laws." There are bright prospects for freshwater fish farming. From the point of view of large-scale agriculture, fish farming is an indispensable part of agriculture. Handling well the relationship between fisheries and grain cultivation is favorable to promoting a good ecological cycle and speeding up the overall development of the whole of agriculture. From the point of view of raising economic effect, fish breeding can enable water to be put to full use. Fishes expend little energy. Therefore, in order for them to put on 1 jin of meat, they only need between one-third to one-half of the feed that livestock and poultry need. Fish is in desperately short supply on the market so there is no marketing problem. If we manage well a small reservoir of 1 mu, this will bring in an income equivalent to the income of 2 mu, 3 mu, or even several mu of grain fields. The results achieved by fish-breeding efforts are several times greater than if they were expended on cultivation. Fish breeding is a mode of production that calls for little in the way of expenditure, but produces many results in a short time.

Although production in freshwater fish farming has had a long history, we have only just started to really take it seriously from top to bottom. At present, we must pay attention to grasping the following few things well:

We must implement a fishery production responsibility system in the same way that we implemented one for grain and cotton. There remains a substantial part of our water surface over which the right of utilization has not yet been clearly decided. Some has been the subject of incessant disputes, with the results that nobody is allowed to use it. This is an important reason why the water surface utilization rate is low. All responsible departments should discuss ways of solving this as soon as possible. Some localities have, after water surface management rights have been defined, issued water surface utilization certificates and this has had a very good effect in promoting the utilization of the water surface. The setting up of the various forms of the fishery production responsibility system has already achieved clear results. What has been set up, provided it is favorable to the development of production and the masses are satisfied, should be stabilized and further perfected. What has not yet been set up should be worked on more and gradually implemented. The greater the demands of fish-breeding techniques, the stronger the continuity of production. We must go all out to develop in the direction of specialization and gradually form a batch of specialist groups, households and workers. If at any given time, the necessary preconditions are absent, we should arrange it so that there is a relatively steady supply of contractors and the contract period is suitably extended.

We must popularize fish-breeding techniques in the same way that we implemented pig and chicken-breeding techniques. Freshwater fish farming in our country has a long tradition and experience. After liberation, due to the strenuous probing of the broad masses and the science and technology workers, new developments emerged. The main technical problems concerning the production of several hundred jin of fish per mu in small reservoirs and several dozen jin of fish per mu in lakes and reservoirs have been solved. As far as the vast numbers of commune members in the villages are concerned, they are nowhere near as familiar with fish-breeding as they are with pig and chicken breeding. All localities should launch in a big way various kinds of technological training activities and form a good batch of demonstration teams, households and ponds so as to gradually bring about a fish-breeding technique popularization system.

We must grasp well capital construction in fish farming in the same way that we have grasped well capital construction of farmland. There are innumerable pockets of small water surfaces which together amount to a great area and where intensive breeding should be conducted to give high yields. This is the key point of fish breeding for the near future. "Breed large fish where the water is deep, where the water is fertile, production is high." Most small reservoirs in the rural areas should be transformed. This would be favorable to both fish breeding and irrigation of farmland. We must build up a complete system of fish-breeding farms on lakes and reservoirs. Fish breeding must be developed in a big way. The shortage of fry, especially of large fish fry, is a prominent problem. In order to improve the quality of fry, we should, on the whole, adopt the county as the unit, hatch fry in specified locations and supply them in specified areas. Production units with the necessary preconditions can cultivate on their own. We must grasp construction in counties where there is a lot of water surface and which at present still do not have hatcheries. The state, as well as the various provinces, municipalities and autonomous regions, must build a series of original and fine fish fry farms in a planned way. Feed is the material base for fish breeding. Under specific conditions, it has a decisive effect on fish-breeding production development. We must extensively open up resources for feed and vigorously popularize successful experiences in integrating fisheries with animal husbandry and agriculture and in substituting green feed for concentrated feed. We must carry out research and manufacture various sorts of granular feed and set up a series of small-scale feed-processing factories.

Development of freshwater fish farming is beneficial to the people. It was pointed out at the national freshwater fish farming conference that we must strive to make use of all usable water surfaces by the end of the 1980's so that freshwater fish production will be increased by 200 percent each year until we reach 4 to 5 million tons. This is an encouraging target. We have the objective conditions to realize this target. However, the task is tough. We must enhance our revolutionary vigor, work practically, bring all positive factors into play and strive to create a situation in which all state-run, collective and individual fish-breeding farms work together. We must build fertile "livestock farms on the water" by amalgamating water surfaces of all sizes.

CSO: 4007/354

'NANFANG RIBAO' COMMENTS ON SPRING FARMING ISSUES

HK240222 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT
22 Mar 82

[Report on 23 March NANFANG RIBAO commentator's article: "Do Better at Spring Farming According to This Year's Special Features"]

[Text] The article says: The busy time of spring farming is approaching. A major task awaiting us is to do still better at implementing and promoting the principle of developing agriculture by relying on correct policies and science in accordance with this year's special features and carry out spring farmwork on a solid basis so as to ensure a bumper harvest in agriculture.

The article points out: Now, whenever we say we will launch struggle against capitalist corruption, deal blows at economic criminals, or strengthen management of economic work, some rural cadres and masses think that the policies will be changed. Some even say that the golden time will come to an end. This is a pure misunderstanding. Our struggle against corruption is entirely to meet the need of implementing the strategic principle of shifting the work focus formulated at the third plenary session, the need of smooth development of economic construction and the need of upholding the four fundamental principles. This has nothing to do with tightening up policies. In the current struggle, the blows are mainly to be dealt at a few economic criminals who are engaged in smuggling and peddling contraband, speculation, profiteering, corruption and accepting bribes.

The article stresses: In order to dispel the peasants' fear of policy changes, we must loudly and clearly declare to the peasants that there will be no change in the party's economic policies in the rural areas, no change in the decisionmaking power of the production teams under the guidance of state plans, no change to the various forms of production responsibility system, no change in the comprehensive development of agriculture, industry and sideline production, and no change in promoting household sideline production and village fairs. In a word, there will be no change in our party's policy of helping peasants to become affluent as soon as possible and building up a new, prosperous, civilized socialist countryside. The golden time of the peasants is just starting. Things will be getting better and better. All of you can work for socialism with easy minds and go all out to eliminate poverty and become rich.

The NANFANG RIBAO article concludes: so long as we proceed from this year's actual conditions, push on in a flush of victory and give full play to the power of policies and science, then the agricultural production in our province will become prosperous year after year, and the excellent situation in the countryside will forge ahead with giant strides.

CSO: 4007/354

BRIEFS

ZHANGJIANG PREFECTURE CATTLE-BREEDING--Zhanjiang Prefecture has done well in raising draft cattle. The number of draft cattle in the prefecture by the end of last year was 1,170,900, which was 185,000 more than in 1980. The rate of increase reached 18.6 percent. The number of peasant households breeding over 15 head of draft cattle each in the prefecture was 28. These households were breeding a total of 574 head of draft cattle. [Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 9 Apr 82 HK]

SHANTOU PREFECTURE'S BUMPER HARVEST--Shantou Prefecture reaped a bumper harvest of spring-harvested crops. Based on its agricultural department investigation, it is estimated that output of spring-harvested crops in the prefecture may reach 400 million jin, 25 percent more than last year. Production of wheat was more than production of other spring-harvested crops. The average per-mu yield of wheat throughout the prefecture reached 253 jin. A large number of high-yielding typical examples have emerged. The average per-mu yield of wheat in 19 communes exceeded 300 jin. The average per-mu yield of wheat in 16 brigades exceeded 400 jin. [HK100844 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 9 Apr 82]

CSO: 4007/360

ESTABLISHMENT OF FRUIT GROWING BASES IN BAODING PREFECTURE REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 18 Dec 81 p 2

[Article by Song Wenzho [1345 2429 0587] and Zhen Dengshan [3914 4098 1472]: "Boading Prefecture Uses Barren Mountains and River Flats to Build Fruit Production Bases. Ownership by Planters of Fruit Trees in Fields For Which They are Responsible on Hill Slopes in Mountain Regions Guaranteed Without Change for 30 Years. Beijing and Tianjin Market Research Team Set Up For Liaison in Procurement, Marketing, and Processing Tasks"]

[Text] By way of making the most of advantages of mountain regions and further hasten the pace of development of mountain regions, Baoding Prefecture has put barren mountains and river flats to full use for development of fruit production bases.

Baoding Prefecture's fruit tree resources are abundant and of numerous varieties. Red dates, persimmons, Chinese hawthorns, walnuts, and Sichuan pepper enjoy sales in numerous provinces and municipalities. Since the 3rd Plenary Session [of the 11th Party Central Committee], all counties have readjusted their ratio of farming and forestry, making full use of advantages of mountain regions to give close attention to establishment of fruit production bases. The area of mountain region fruit trees in the prefecture amounts to 530,000 mu, and large fruit production bases are being built in four locations. These include red date bases in Fuping, Quyang, and Tang counties; persimmon bases along hill regions in Mancheng, Yi, Laishui, Wan, and Tang counties; and walnut bases in the deep mountain areas of Fuping, Laiyuan, Yi, and Laishui counties. Establishment of fruit production bases has played a role in strengthening the collective economy of mountain regions and in increasing commune member earnings. Fruit production from the prefecture's mountain region amounts to 180 million jin annually and has an annual output value of about 30 million yuan. Per capita income in the mountain regions averages somewhat more than 20 yuan. However, throughout the prefecture are 5.3 million mu of barren mountains suitable for forests that have not been afforested in which a very great potential exists for development of fruit production. In order further to enliven the mountain region economy, the Baoding CCP Committee and government administrative offices have recently organized units concerned with forestry, supply and marketing, and mountain region construction to go into mountain regions to investigate and study. They have preliminarily formulated five measures for development of hard [such as nuts] and juicy fruit bases.

1. Further liberalization of policies with implementation with all possible speed of delineation and fixing of rights for mountains in which people are assigned responsibility and in privately worked mountains. All collectively own barren mountains suitable for artificial afforestation, except for those collectively planted, may be designated mountains for which people have responsibility, contracts with households being entered intc for them, time limits fixed for their afforestation, and profits from them being proportionally shared. Those suitable for the planting of fruit trees should be planted to fruit trees. In fields on hill slopes in mountain areas for which they have responsibility, commune members should be permitted to grow hard or juicy fruits, ownership being guaranteed for a period of 30 years to whomever does the planting. At the end of this year, certificates setting forth rights should be issued and, at the same time, commune members should continue to be encouraged to grow fruit trees in front of or behind their homes and in open spaces and courtyards.

2. Strengthening of leadership and doing a good job of planning to make development of fruit tree production an important way be which peasants in mountain regions can become prosperous first, placing it on the daily agenda of party and government, assigning a comrade principal responsibility for strengthening specific leadership over; fruit tree production. A good job of planning should be done using the adaptation of general methods to local situations, and in addition to consolidating existing bases, planned establishment of new bases should be done. By 1985, total fruit output should reach 350 million jin, and newly planted fruit trees cover 200,000 mu.

3. Institution of a system of responsibility for nursery management to promote development of nursery stock. On the basis of their development needs, all jurisdictions should designate an area for the growing of saplings and formulate regulations providing rewards and penalties in management of the growing of saplings. Attention should be directed to selection and cultivation of superior varieties that are highly adaptable, easily cared for, that bear fruit early, that produce high yields, that for which demand is great in domestic and foreign markets. The state will provide suitable assistance in expense funds and grain for land used to raise saplings.

4. General promotion of the science and technology of fruit tree care and making full use of the role of scientific and technical cadres for fruit trees. Units responsible for forestry in each county are to set up special organizations for fruit tree production, and communes and brigades are to set up technical organizations for fruit trees, requiring production brigades in major producing areas to designate three or four fruit tree technicians. Forestry cadres and technicians are to go into fruit production bases to organize regular technical training during key seasons for tree care, and give practical guidance.

5. Full use should be made of Baoding's geographical advantage in being fairly close to the large cities of Beijing and Tianjin, the prefecture establishing a research team on Beijing and Tianjin markets to come to know markets demands, to propagandize agricultural sideline products from Baoding Prefecture, to carrying out liaison for procurement, marketing, and processing, to invite technicians in, and to help counties, communes, and brigades conclude contracts of various kinds.

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HEBEI

IMPETUS GIVEN ESTABLISHMENT OF SOUND RURAL FISCAL SYSTEM

Shijiazhuang HEBEI RIBAO in Chinese 18 Dec 81 p 1

[Article: "Ling Perfection of Responsibility Systems to Reorganization of Commune and Brigade Finances"]

[Text] A good job of reorganizing commune and brigade finances is a major component in enhancing and perfecting various forms of a system of responsibility. Ever since the last half of 1980, Hebei Province has spread the work of reorganizing commune and brigade finances to all areas by drawing upon experiences gained at key points. Now in 26 percent of the province's counties, this work has been virtually completed, and remarkable results have been obtained in communes and brigades in which it has been done well. Numerous commune members have said that following the reorganization, property holdings had been clarified and they felt a burden had been removed. Money and goods were well managed without waste, and increases in output and earnings were in prospect. However, it is also necessary to realize that in more than half the production teams in the province, finances have not yet been reorganized, and in some brigades and communes the work of reorganizing finances has amounted to nothing more than going through the motions. In these units, finances are still in a state of chaos. No proper accounting has been made of property, material or wealth, for which losses and damage have been serious. The property system is not complete; expenditures are made without planning; and financial accounting teams are not suitable etc. This state of affairs has seriously impaired consolidation and perfection of the various forms responsibility system for production. Therefore, this winter and next spring, perfection of systems of responsibility in rural villages should be closely integrated with close attention to commune and brigade financial reorganization work. This is a key element in the perfection of responsibility systems for production, for consolidation and development of the collective economy, and for improving administration and management in communes and brigades.

Why is it necessary to link perfection of responsibility systems for production to doing a good job of financial reorganization? It is because reorganization of commune and brigade finances is closely interrelated to perfection of systems of responsibility. Various forms of a responsibility system include the methods of management, allocation, and use of the means of production and of investment for collective production, as well as of the system of contracting for production and of rewards and penalties, of economic accounting, of collective withholdings, and of methods whereby distributions are made to commune members. Such economic work is a major ingredient in financial management work. It should be realized that when finances are chaotic, when there is no clear accounting for property, and when losses and waste are serious, there can be no rational management, allocation or use of collective means of production and of currency and funds on the basis of needs and capabilities or implementation of a responsibility system for production. When a mess is made of work on the economic links of systems of responsibility for production, the entire situation can be hurt and the enthusiasm of the masses dampened. Moreover, only by doing a good job of financial reorganization and perfecting the economic links in responsibility system for production can the limits of authority, the obligations, and the benefits of both the collective and producers in management of production be guaranteed, and full advantage be taken of the superiority of the system of responsibility for production and to fully arouse the enthusiasm of both the collective and individuals. Therefore, once a responsibility system for production has been established, reorganization of finances is not only necessary, but extremely urgent. If we say that perfection of responsibility system for production is a key link in the work of rural villages this winter and next spring, then reorganization of commune and brigade finances is a key economic link in perfection of responsibility system for production, both of which must be firmly taken in hand at the same time to produce results.

In the task of reorganizing finances, high standards must be maintained and the job done conscientiously, guarding against just going through the motions. In the process of reorganization, it is necessary to diligently make inventory and record of fixed assets, grain resources, cash savings, credit and obligations, and accounts of revenues and expenditures to achieve agreement among accounts, actual amounts in the accounts, funds on account, statements, and account sheets, and to resolve real problems clarified through inventory. A system of designated responsibility for finances should be established based on the account clearance. A democratic financial management team should also be established for democratic fiscal management. Various kinds of fiscal management systems should be established and perfected for budgeting and settling of accounts, for financial resources management, and for examination and approval of expenditures. A good job should be done in the training of accountants and in establishing grade scales for them through examination so as to consolidate the ranks of accountants and raise professional levels. The above are general requirements, but all jurisdictions should study and establish, on the basis of their own fiscal management circumstances and the state of implementation of systems of responsibility for production, local foci of reorganizational work, giving attention to each and every one of them and striving to plug loopholes through this reorganization, to improve fiscal management, to increase revenues and conserve on expenditures, and to increase economic effectiveness.

Financial reorganization a complex task with strong policy overtones. All localities must strengthen leadership and make deployments incrementally according to plans. First they should solve the cognition problem among leaders at all levels, overcome reluctance to do any task that is arduous, apprehensiveness about doing anything for fear of upsetting relationships, and such ment in concerns. Communes and brigades that reorganize commune and brigade finances should make unified arrangements and deployments for perfection of systems of responsibility for production, principal leadership comrades personally taking charge to organize rural work departments, agricultural bureaus, agricultural banks, and other relevant units for close cooperation, and to establish leadership teams and day to day work organizations. Prefectures, counties, and communes are to transfer a certain amount of forces to spread work to all areas by drawing upon experiences gained at key points to help grassroots levels do a good job of reorganization. All levels of leaderships must work in accordance with party policies. Financial reorganization work is not to be turned into a mass movement, but rather should be done through improvements in day to day work. Most important in the case of the broad masses of rural grassroots cadres is improvement in their thinking and management levels through financial reorganization. Economic problems uncovered as a result of inventorying must be solved strictly in accordance with party policies through a seeking of truth in facts. In the case of cadres about whom there are problems of a general nature, criticism and self-criticism should be used to provide indoctrination. Where problems are serious and feeling runs high among the masses, proper disposition should be made. All jurisdictions should give firm attention to deployments this winter and next spring to use fiscal reorganization to promote perfection of systems of responsibility in order to develop the fine situation that is in the ascendent in rural villages.

9432
CSO: 4007/192

BRIEFS

FERTILIZER OUTPUT UP--Fertilizer production in Hebei Province during the first 10 days of January amounted to 28,700 tons (converted to net), a 112.3 percent fulfillment of scheduled plan, and a 12.3 percent increase over the same period last year. The province's chemical industry system absorbed the lessons of the first quarter of last year to take the initiative. Because three bureau directors of the Chemical Industry Bureau in Zhangjiakou Prefecture took the lead in organizing 15 engineering technicians and cadres to work, going into plants in the four different directions to get raw materials, put materials to use, and devote attention to safe and enlightened production during the winter quarter, during the first 10 days of January the prefecture overfulfilled by 29 percent plans for synthetic ammonia. The Chemical Industry Bureau in Tangshan gave emphasis to the upgrading of technology and use of waste heat, and also focused on turning losses in profits in laggard enterprises. Today small nitrogenous fertilizer plants throughout the prefecture have eliminated losses, and during the first 10 days of January they overfulfilled by 20 percent production of synthetic ammonia. [Text] [Beijing HEBEI RIBAO in Chinese 14 Jan 82 p 2] 9432

CSO: 4007/203

AFFORESTATION CONFERENCE HELD

SK170540 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 16 Mar 82

[Excerpt] The provincial service afforestation conference concluded yesterday. It urged all urban and rural people throughout the province to go into action to voluntarily plant trees and to do their bit in the afforestation campaign in order to expedite our province's tree-planting work in cities and towns.

This conference is the first held after establishment of the prefectural, municipal and county afforestation committees. Attending the conference were responsible comrades of the afforestation committees at various levels and responsible persons of departments concerned.

Hailun and Suihua counties, two of our province's advanced tree-planting units, introduced their experiences at the conference. Leading comrades of the Harbin Municipal People's Government introduced their plans and ideas for expediting afforestation work in Harbin municipality and making it into a tourist city with beautiful environment and scenery. (Wang Guangwei), vice chairman of the provincial afforestation committee and deputy provincial governor, addressed the conference.

The conference noted: Over a long period of time, due to the arbitrary deforestation and an imbalance in tree-planting and tree-felling and other reasons such as forest fires and illegal lumbering, our province's forest areas declined from 52 percent in the 50's to 36 percent. This resulted in a disproportion in agricultural, forestry and animal husbandry sectors. Damages caused by inundation, frost and waterlogging are serious in some localities. About 60 percent of the commune members in our province are short of firewood.

The conference stressed: This is the first year of the all-people voluntary tree-planting campaign; therefore, in addition to carrying out the normal tree-planting work, we must also do a good job in the current afforestation campaign.

CSO: 4007/354

HUBEI RADIO DISCUSSES SPRING FARMING TASKS

HK250253 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 23 Mar 82

[Short commentary: "Lead Spring Farming on a Sound Basis"]

[Text] The spring equinox is over and qifuming is drawing near. The busy time for spring farming will start soon in our province. The major task now awaiting our rural workers is how to lead spring farming in our province in the correct way under the new situation of the implementation of various forms of production responsibility system in the rural areas.

First, it is necessary to perfect and stabilize as quickly as possible the agricultural production responsibility system suited to conditions in different places; and it is necessary to further publicize the policies of unwaveringly adhering to the path of collectivization and public ownership of land and other basic means of production and to the agricultural production responsibility systems, so that the peasants can carry out agricultural production at ease and in a bold manner. Second, during spring farming, it is necessary to educate commune members in patriotism and collectivism so that they can handle well the relationship between state, the collective and the individual, and educate them to subordinate their agricultural production plans to the state plans.

The busy time for spring farming is imminent. The rural workers should concentrate their main efforts on spring farming, stop at once all meetings that have nothing to do with the party's essential work and organize cadres to go to the production teams and go deep into peasants' households solve in good time all practical problems that might arise during spring farming, and in particular the problems of households in difficulties. Thus, spring farming can be led on a sound basis.

CSO: 4007/354

GREATER INCENTIVES TO HOG RAISING PROPOSED

Wuhan HUBEI RIBAO in Chinese 17 Dec 81 p 1

[Article: "Key to Development of Live Hog Production Lies in Implementation of Policies, Provincial Animal Husbandry Work Conference Points Out; Comrade Chen Pixian [7115 0012 7359] Emphasizes Need For Assured Fodder If Vigorous Encouragement Is to be Given to Hog Raising and the Practice of Quota Raising and Quota Procurement. Province Decides to Allocate a Little Grain For Award Sales"]

[Text] Comrade Chen Pixian pointed out at the Provincial Animal Husbandry Conference on 4 December that if the raising of hogs and the practice of quota raising and quota procurement are to be encouraged, fodder will have to be assured, and that the province is prepared to allocate a little grain for award sales so that hog raising households can count on some grain.

Since last winter the number of hogs raised in Hubei Province has generally declined and now pork is in short supply in urban and country markets, one of the main reasons being that peasants made some calculations and decided that hog raising was not worthwhile, so they no longer want to raise hogs. The conference believed that in addition to making the peasants understand that fulfillment of live hog quota raising and quota procurement tasks is a duty to the state that peasants should fulfill to the best of their abilities, even more important is that policies should assure peasants that a profit is to be made from the raising of hogs. Expecting peasants to raise hogs in the practice of quota raising and quota procurement when they are unable to realize even the slightest profits, or to expect them to allocate high priced grain to the raising of hogs clearly at a loss is certainly not as effective as doing something that makes hog raising worthwhile so that everyone will want to raise them. Therefore, the practice of quota raising for quota procurement should continue to be stressed as an obligation that peasants should do everything to fulfill, but efforts should also be made to make peasants want to raise hogs. How can hog raising be made profitable? If hogs are to be raised to fulfill next year's production and procurement plans, and plans for delivery to the state, fodder for them must be assured. Providing land on which to grow animal fodder is a policy for development of hog raising, and about five percent of the province's cultivated land area may be used for this purpose. When fodder land is provided, hog raising should be done; when fodder land is not provided, but private plots are available, hog raising should also be done. Following the practice of various forms of a system of responsibility, grain for animal feed became a matter entirely left to production teams, and in some places supplies were not dependable. Unless the state allocated a little grain, grain for animal feed would not be available. The Provincial CCP Committee and the Provincial People's Government decided that the province should be prepared to allocate a little grain for use in making reward sales, 1 jin of grain being sold for every jin, gross weight, of live hog, sold to the state after fulfillment of requisition procurement quotas so as to encourage peasants to raise more hogs, to raise fat hogs, and to sell more hogs.

The conference noted that a great decline has taken place throughout the province in the number of boars and sows and that the supply of hogs is seriously insufficient. Unless all jurisdictions take urgent action, next year's live hog production may be even further impaired. In order to solve this problem, the province decided to allocate special funds to improve hog breeds and to spread widely the techniques of artificial insemmination of hogs so as to increase the utilization rate of boars, the pregnancy rate of sows, and the rate of production of shoats. Financial units at all echelons are to take corresponding actions in support. All jurisdictions should put into effect preferential policies with respect to collective units or individuals raising boars or sows. Raising of boars and sows should be linked to improvement in hog breeds, every means possible being used to reverse the trend toward a decline in quality of hogs.

9432
CSO: 4007/203

SHANDONG

OFFICIALS HELP IN SPRING FARMING

SK250630 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 Mar 82

[Text] According to our sources, since the beginning of spring, leaders at all levels in our province have led some 80,000 cadres at the forefront of agricultural production to help grassroots communes and brigades combat drought to ensure the wheat harvest and spring sowing. To reap bumper wheat harvests and conduct spring sowing in good time, CCP committees and people's governments at all levels throughout the province have regarded the work of combating drought to ensure the wheat harvest and spring sowing as the most important task in rural work.

The provincial CCP committee and the provincial people's government have transferred many cadres from provincial-level organs to 13 prefectures and municipalities to help in drought combating work under the leadership of responsible comrades at department and bureau levels. All localities have organized many cadres to give assistance and guidance to grassroots suffering from serious drought and difficulties.

According to incomplete statistics, some 78,700 cadres in various prefectures, municipalities and counties have gone to the drought combating forefront. Yantai, Weifang and Linyi prefectures have respectively transferred 10,000 cadres to the grassroots units. Cadres at all levels, together with the cadres in communes and brigades, have worked out measures to combat the drought in line with local conditions and try in every possible way to strengthen wheatfield management and make preparations for spring farming, greatly accelerating the pace of spring farming.

As of 17 March, among the 51 million mu of wheatfields in our province, 12.3 million mu were irrigated, 32 million wu were applied with fertilizer and 38 million mu were plowed, an increase of 5 to 6 million mu respectively over 1981.

Meanwhile, 10.4 million mu of wheat fields were moistened and 31 million mu were pressed and harrowed to conserve moisture, 8 million and 10 million mu more respectively than in the corresponding 1981 period.

CSO: 4007/354

SHANDONG RADIO COMMENTARY ON COTTON PRODUCTION

SK301338 Jinan Shandong Provincial Service in Mandarin 2300 GMT 29 Mar 82

[Station commentary: "Make Efforts To Increase Per-mu Yield of Cotton"]

[Excerpts] Stabilizing the acreage of cottonfields and increasing the per-mu yield and total output of cotton so as to reap good harvests in both grain and cotton is the basic guiding ideology for developing cotton production in our province and is an important way to encourage cotton-growing areas to implement the principle of ensuring cotton production with grain production and promoting grain production with cotton production and to accelerate the development of cotton production.

Cadres and the masses in cotton growing areas should firmly and unswervingly implement this principle, resolutely stabilize the acreage of cottonfields, make great efforts to increase the per-mu yield of cotton and strive for a still better cotton harvest this year.

Through many years' readjustment, the current cotton acreage in our province is at an all-time high and favorable factors in cotton growing have been fully exploited. Practices have proved that this readjustment is completely necessary and accurate. In other words, it is impossible to reap bumper cotton harvests without this readjustment. However, viewing the overall situation, imbalances will certainly reappear if we continue to expand the acreage of cottonfields instead of stabilizing it.

Our province has a population of over 70 million and thus food production is a major issue. If we fail to reap a good grain harvest, not only will the production of cotton and other cash crops be adversely affected, but the national economy and the overall situation will also be dampened.

In developing cotton production, we should vigorously increase per-mu yields. In line with the practical situation, many localities have great potential to increase their per-mu cotton yields. Last year, even though we experienced relatively serious natural calamities, over half of the cotton-producing counties in our province increased their per-mu cotton yields by an average of 10 jin or so, and 10 of these counties increased it by 30 jin.

CSO: 4007/354

FORUM HELD ON COTTON PRODUCTION

SK301330 Jinan Shandong Provincial Service in Mandarin 2300 GMT 29 Mar 82

[Text] According to our reporter, the recent provincial forum on cotton production in Ling County stressed that the general guiding ideology for our province's cotton production is to stabilize the acreage of cottonfields and increase per-mu yields and total output. Cotton-growing areas should ensure cotton production with grain production and promote both grain and cotton production in an effort to reap bumper harvests. Li Zhen, secretary of the provincial CCP committee, and Zhu Qimin, deputy provincial governor, spoke at the forum.

The forum pointed out: Since the 3d Plenary Session of the 11th Party Central Committee, our province has reaped good cotton harvests for many years running. The 1981 provincial cotton output was more than 3 times that of 1978. As a result, cotton-growing areas have taken on a new look, provincial agricultural production is becoming rational gradually and the national economy has been promoted.

The forum held: The present cotton-growing acreage in our province is rational in the main and no further readjustment is needed. From now on, the acreage of cottonfields should be stabilized and attention should be paid to ensuring grain and cotton production so as to reap bumper harvests in both crops.

At present, the whole province is faced with drought. Therefore, we must regard the work of combating drought to ensure a good wheat harvest and timely spring farming as a central task and combat drought to plant cotton in order to ensure a full stand of cotton shoots. We should also further implement our party's policies and strive to raise the level of scientific cotton-growing technology. The forum urged all cadres and the masses in cotton-growing areas to boost their morale and work conscientiously to reap a still better harvest this year.

CSO: 4007/354

READJUSTMENT OF SURPLUS COTTON INCENTIVE POLICY

SK270905 Jinan Shandong Provincial Service in Mandarin 2300 GMT 26 Mar 82

[Text] According to our sources, the provincial people's government issued a circular on readjusting the policy of selling grain to cotton farmers as an incentive for selling surplus cotton to the state beginning this year.

The circular states: the policy of selling grain to cotton farmers as an incentive for selling surplus cotton to the state has played a positive role in arousing the enthusiasm of cotton farmers and promoting cotton production. However, along with the development of cotton production and various other undertakings, the amount of grain needed to be imported from other provinces is very large. Owing to transportation limitations, the annual grain import plan cannot be fulfilled on schedule. This impedes not only implementation of the policy of selling grain to cotton farmers as an incentive for selling surplus cotton to the state, but also affects the arrangements for grain work.

In order to guarantee implementation of the policy for selling grain to cotton farmers in a timely manner and take the initiative in doing grain work, the provincial people's government has decided that for selling 1 jin of surplus ginned cotton to the state, the cotton farmers, instead of being sold 2 jin of grain as an incentive, will be sold 1 jin of grain by the state at the state procurement price and gives a certain amount of cash representing the difference between the state procurement price and the higher price paid for procuring surplus grain.

CSO: 4007/354

IMPROVEMENT OF FARM MACHINERY MANAGEMENT URGED

SK251032 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 Mar 82

[Text] According to our sources, a recent provincial farm machinery work conference called for efforts to stabilize and improve responsibility systems in farm machinery management, popularize and experiment with farm machinery in a selective manner, expand the range of farm machinery operations, improve the quality of farm machinery operations and give full play to the economic results of available farm machinery.

The conference pointed out: Since the 3d Plenary Session of the 11th CCP Central Committee, agricultural mechanization has rapidly developed in our province. The acreage of farmlands plowed, sown and harvested with machines has doubled. The range of farm machinery operations has generally expanded. The management of farm machinery has somewhat improved. However, responsibility systems in farm machinery management cannot completely suit the needs of responsibility systems in agricultural production. Major problems are low managerial level, poor operating skills and a lack of accessories.

The conference pointed out: farm machines owned by communes and brigades are important production means, public property and a foundation for developing the collective economy. They must be properly protected and never be shared out. No matter what responsibility is adopted, large farm machines and irrigation equipment should be subjected to unified management and utilization of collectives. Existing farm machinery brigades and groups should be consolidated and stabilized and never weakened or dismissed. Farm machinery should be managed by collectives. They need specialists to take care of it. Dismissed farm machinery brigades should be reorganized after consolidation. At the same time, attention should be paid to farm machines managed by individual grain producing households. When conditions permit, brigades and production teams may manage the farm machines for them.

The conference urged: all localities should do a good job in promoting and popularizing mechanization of wheat production and heed the experimental mechanization of cotton production in selected areas. Mechanized pest controls should be considered a prominent and urgent task. The focus of spring crop production should be to combat drought and to guarantee wheat production, spring sowing and other field operations. Every effort should be made to use tractors to deliver and pump water, preserve soil moisture and conduct spring plowing. Units providing farm machinery should tour communes and brigades to check and repair farm machinery and provide technical instructions.

CSO: 4007/354

SHANDONG

BRIEFS

VOLUNTARY AFFORESTATION--The voluntary afforestation campaign is in full swing in Shandong Province. As of 18 March, 230,000 mu of forests had been built, 2.83 million mu of farmland afforested, 178,000 mu of hilly areas leveled and 109 million trees planted around villages and houses and along roads and waterways. [SK260902 Jinan Shandong Provincial Service in Mandarin 2300 GMT 25 Mar 82 SK]

CSO: 4007/354

AGRICULTURAL ZONING PUT TO BENEFICIAL USE IN CHANGSHOU COUNTY

Beijing ZHONGGUO NONGMIN BAO in Chinese 28 Jan 82 p 2

[Article by Zhang Biguo [4949 1801 5470] County Magistrate, Changshou County, Sichuan: "Agricultural Zoning Is a Basic Tool For Reliance of Agricultural Production on Science"]

[Text] Comrade Editor:

Agricultural resources survey and agricultural zoning work in my county began in July 1980 and was virtually completed by May 1981. The "wealth" of natural resources in my county were pretty well clarified, and a scientific summation was made of the lessons of 31 years experience in agricultural production in my county. The advantages and major limitations on this production were clarified, and a direction for development was set.

Our understanding of the agricultural resources survey and zoning work increased step by step as zoning work progressed. In the summer of 1979 when it was apparent that the county could not fulfill its grain production tasks for the year, the county decided to promote throughout the county the 1978 experiences of Jiangnan district in growing rice to be harvested in late autumn. After the conventional rice was harvested, most communes and brigades replanted more than 100,000 mu of late autumn rice. More than 3 million jin of rice seeds alone were used, and between 300 and 400 tons of chemical fertilizer were used, but practically no harvest resulted. Later on, a check of county meteorological data over the years brought the realization that the weather in mid-September 1978 was abnormal weather such as had rarely occured in several decades, temperatures averaging 7.7 degrees higher than in most years. Because we had not been very clear in our minds about the county's meteorological data, we had taken the special to be the usual and had regarded the accidental as the inevitable. Consequently, we had paid out a substantial amount of manpower and material resources in exchange for a profound lesson. Summarization of this experience made us realize that that unless we understood the "wealth" of the county's four great resources of soil, meteorology, water conservancy, and living things, we had no right to direct agricultural production. Consequently, when the province and municipalities decided to run a natural resources survey and agricultural zoning pilot project, the County CCP Committee and county government made up their minds to devote strict attention to this work.

With the development and progress of zoning work, and solution to problems about the growing of double crops of rice about which arguments had raged for more than [illegible] years, our understanding took a new leap. Ever since 1958 we had blindly promoted two crops of rice throughout the province, and we had treated this as a strategic measure for increasing grain production. After doing this for 10 or 20 years, the county's total output of paddy rice had hovered for a long time around 240 million jin. As a result of checking and collating recorded heat, light, and water conditions for the county for the two months of September and October in various years, the resources survey unit came to the conclusion that an overwhelming majority of the high mountains and hills of the county were not suitable for the growing of double crops of rice. On the basis of zoning carried out using these results, in 1981 the County CCP Committee and county government reduced the rice growing area from the 250,000 mu in the highest year to 40,000 mu while at the same time enlarging the area planted to intermediate hybrid rice and conventional high yield rice varieties. As a result the county's total output of rice was more than 280 million jin, a 20 percent increase over 1980 with yield increases of 100 jin per mu.

In the past several years we have clung solely to grain production, blindly expanding multiple cropping. The internal proportions of grain crops have been inequitable, consequently impeding the bringing into full play of overall economic benefits from agriculture. In 1981, acting on the results of agricultural zoning, we made up our minds to readjust grain production and economic diversification and the proportional relationship among varieties of grain produced. For spring-sown crop production, emphasis went to intermediate rice, which is able to use to the fullest extent our county's natural advantages in heat, light, and water during June, July, and August. Crops sown in late autumn were subordinated to those sown in the spring, the guiding thought being to help intermediate rice production by cutting back appropriately on the area sown to wheat. The area sown to rape, kohlrabi, green manure, and green livestock feed was increased. As a result the county's total grain output reached 580 million jin for the best harvest ever.

We used the resources survey and agricultural zoning work to formulate intermediate and longrange plans for the county's development of agricultural production, and decided strategic measures for development of agriculture. The experience of more than a year has made us realize that agricultural zoning is a major foundation for reliance on science to develop production.

9432
CSO: 4007/198

NONSTAPLE FOOD POLICY DISCUSSED

HK310937 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 27 Mar 82

[Station commentary: "Conscientiously Implement the Policy of Monopolized Procurement and Assigned Procurement of Pork, Poultry and Eggs, and Other Nonstaple Foods]

[Excerpts] Recently, the provincial people's government has decided to revive the policy of assigned procurement of poultry and eggs. The finance, grain and commerce offices of the provincial people's government have also decided to carry out assigned procurement of several kinds of high-quality fruit in their key production areas. At the same time, the policy of selling 50 percent of pigs to the state, keeping 50 percent for the producers, voluntarily selling more to the state and procuring enthusiastically has also been reaffirmed.

Why is it necessary to revive the policy of assigned procurement of poultry, eggs and so on? This is a piece of experience summed up through practice. Agricultural bumper harvests have been reaped in the past 2 years. At present state procurement of grain and oil products has increased but symptoms of a short supply of vegetables, poultry, eggs, pork, beef, mutton, aquatic products and fruit have appeared. The prices of these products have also risen. Has the production of these nonstaple foods not developed? No. With the exception of vegetables of which the production has dropped since the fourth quarter of last year due to natural disasters, the production of all other products has increased. Why then is there the phenomenon of a short supply and price increase? There are two main reasons for this. One is that the peasants' livelihood has been improved. They are consuming more than before. The other is cancelling and not properly implementing policies such as assigned procurement and monopolized procurement which have proved to be effective in the past years. This has mainly resulted from a lack of understanding of the policy of taking planned economy as the dominant factor and market mechanism as a supplement. As soon as emancipating the mind to enliven the market is stressed, the prerequisite of taking planning as the dominant factor is overlooked. Consequently, although production has developed, prices cannot be stabilized because not more materials and goods are in the hands of the state. These circumstances have convincingly proved that financial and commercial departments must also implement the policy of taking planned economy as the dominant factor and market mechanism as a supplement. Only if more materials and goods are in the hands of the state and the dominant and leading role of state-owned commerce is ensured at any time and under any circumstances can normal market supply be ensured and prices be stabilized. This has been proved in practice.

At present the provincial people's government and departments concerned have revived and stipulated again the policy of procurement and assigned procurement of pork, beef, mutton, vegetables, poultry, eggs, fruit and so on. Party organizations, governments at all levels and the broad masses of people must not change them at will but must resolutely implement them.

CSO: 4007/354

MEETING STRESSES NONSTAPLE FOOD PRODUCTION

HK310913 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 27 Mar 82

[Summary] The finance, grain and commerce offices of the provincial people's government held a meeting of finance office directors of prefectures, autonomous prefectures and municipalities to arrange this year's financial and commercial work.

"The meeting pointed out that financial and commercial departments must implement the policy of taking the planned economy as a dominant factor and market mechanism as a supplement. They should foster the idea of coordinating all activities of the nation as in a chess game and act in accordance with the state plan. State-owned commerce should play a dominant leading role in the market. Commodities involving the national economy and the people's livelihood and those controlled in a planned way by the state must be purchased and marketed according to state policies and planning and must be under unified management. All financial and commercial policies must follow unified stipulations laid down by the central authorities and the province and must not all proceed in their own way. However, they should give play to the supplementary role of market mechanism under the guidance of the state plan.

In accordance with the spirit of the recent provincial meeting of prefectures and autonomous prefectures, the meeting put forth four major tasks of this year's financial and commercial work.

1. Properly arrange urban and rural markets, do a good job in increasing income and reducing expenditure and maintain basic stability of market prices.

2. Do a good job in supporting agriculture, give assistance to grain production and the diversified economy in rural areas and develop commodity production.

3. Do a good job in reorganizing enterprises, improve the economic responsibility system and management and increase economic effect.

... strengthen ideological and political work and do a good job in building the ranks of workers and staff members."

The meeting focused its discussion on the production and supply of non-staple food. It stressed the production of vegetables, meat, poultry, eggs, fruit and aquatic products and the supply of these products to cities. The meeting worked out concrete policies for the procurement of these products.

CSO: 4007/354

BRIEFS

XIAOSHAN COUNTY FIBER CROP--Preparations are underway for planting 200,000 mu of (luo ma), a base fiber crop, in Xiaoshan County, Zhejiang Province. In 1981, the county reaped a good (luo ma) crop with an average per-mu yield of 785 jin. [Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 6 Apr 82 OW]

CSO: 4007/360

Agricultural Experimentation

AUTHOR: MA Junming [5135 0193 6900]

ORG: Department of Agricultural Machinery, South China College of Agriculture

TITLE: "Ways of Developing Agricultural Mechanization in Guangdong"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES]
in Chinese No 1, 8 Jan 82 pp 1-3

ABSTRACT: Since the establishment of state-operated tractor stations in Guangdong province in the early 50's, there have been continuous development in agricultural mechanization. By the end of 1980, the province had 146,851 tractors of all sizes and 2,349,000 hp of irrigation equipment. A great deal has, therefore, been achieved but a few problems did exist. In pursuit of high speed development, the reality of the rural economy was neglected. Consequently, some products are not suitable and others are either not reliable or easily broken. These problems in agricultural mechanisation do not imply that rural villages need not be mechanized. Small and medium sized machines, such as foot operated threshers, windmills, hand-held tractors, etc. are very much in demand and there are never enough supplies of them. This paper reviews special conditions and special needs of rural farms in Guangdong in the hope that inexpensive machine products may be manufactured to promote the development of agriculture, forestry, animal husbandry, fishery, and auxillary industries.

AUTHOR: CHEN Dezhi [7115 1795 2535]

ORG: Department of Planning, Guangdong Provincial Academy of Agricultural Sciences

TITLE: "Prospect and Retrospect of Crop Breeding Work"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES]
In Chinese No 1, 8 Jan 82 pp 4-6

ABSTRACT: In the past 30+ years, the academy has performed a great deal of work in crop breeding, including rice, peanut, jute, sugar cane, tobacco, vegetables, potato, wheat, green manures, mulberry, tea, etc. According to incomplete statistics, more than 700 new rice strains have been bred out and four of these have netted yield increases of more than 66.8 billion jin of rice through the years, worth 6680 million. During the same period of time the state has provided the academy 2 million yuan of investment for the rice breeding work. A net gain of profit may thus be estimated at 3340 fold. These very successful strains are, of course, the short-stalked rice breeds. Looking into the future, the author believes that the major targets of breeding work should be quality [of grain, etc.] and adversity resistance instead of the past emphasis on quantitative yield, to meet the needs of foreign trade and improving the livelihood of the people. There is also the work of collecting, arranging, preserving, identifying, and utilizing breed resources. The foundation of breeding work will remain the work of various forms of hybridization, and manpower, expenditure, instruments, and equipment will continue to be required.

AUTHOR: WEI Jiecheng [7614 2638 2052]
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LI Liren [2621 4539 0088]

ORG: WEI, LIAO of Meixian Prefecture Institue of Agricultural Sciences; LI of Meixian Prefecture Institute of Agriculture

TITLE: "Research on Etiolated Leaves of Rice in Newly Reclaimed Lateritic Soil Paddies"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 1, 8 Jan 82 pp 31-34

ABSTRACT: In the newly established paddies of lateritic soil in the low hills of the prefecture, the phenomenon of physiological yellowing occurs frequently to the leaves of rice. This phenomenon affects the growth and development of the rice and results in various degrees of yield reduction. This paper reports a study on the effect of this leaf-yellowing disease, as the local masses call it, on the yield of rice, relationship of the disease with soil contents of nitrogen, organic matter, phosphorus, and potassium, and the effect of applying various fertilizer mixes on the incidence of the disease. Results indicate that although phosphorus fertilizer by itself cannot prevent the occurrence of this disease, the only way to prevent its occurrence is to apply phosphorus fertilizer with organic fertilizer or nitrogen fertilizer. Various test data are included.

AUTHOR: LIN Shaoyi [2651 4801 0308]

ORG: Department of Veterinary Medicine, South China College of Agriculture

TITLE: "Several Problems Concerning Chick Newcastle Disease"

SOURCE: Guangzhou GUANGDONG NONGYE KEXUE [GUANGDONG AGRICULTURAL SCIENCES] in Chinese No 1, 8 Jan 82 pp 35-37

ABSTRACT: From the winter of 1980 to the spring of 1981 there were outbreaks of Newcastle disease in many places of the province causing death to large quantities of chicks. It appeared that this large scale epidemic was mainly the result of insufficient understanding of related persons concerning the high toxicity of the virus. Based upon the historical condition of the disease in the province, this paper discusses problems concerning the vaccination procedure and the use of the I system vaccine (commonly known as the Mukteswar or Indian system.) The vaccination procedure cannot be the same everywhere and it can only be formulated according to the condition of the country. It may have to be different for an individual chicken farm. For example, the government of Hong Kong dasides the local procedure to be the following: The II system vaccine should first be dropped in the nose of chicks at 5-7 days of age before the I system may be injected at the age of 18-21 days. With large herds of over ten thousand chicks, the mist technique may have to be used, but it is not as reliable as eye drop, nose drop, and muscular injection procedures. The problem concerning the need for repeat inoculation is also discussed.

CSO: 4011/50

AUTHOR: CHEN Xunru [7115 8113 0320]

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TITLE: "Preliminary Research on Stalk Structure Characteristics of Wheat Breeds of Different Ecological Types"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 25 Jan 82 pp 1-5

ABSTRACT: For the purpose of clarifying changes of stalk structure under different ecological and cultivation conditions, 27 farm varieties of wheat representing wheat growing regions of the middle and lower reaches of Changjiang, the Xizang Plateau, and areas similar to South China, and varying levels of fertilizer requirements are planted under the concrete conditions of Lincang where conditions of temperature, sunlight, etc. are very favorable during the growth and development period of wheat. Their major characteristic structures, including weight of stalk (biological yield) weight of straw, number of grains per g of straw, number of grains per spike, weight of 1000 grains, weight of grains per spike, harvest index, biological yield of 3 chi^2, and number of grains per 3 chi^2 are observed and compared. In conclusion, the paper seeks to demonstrate that a wheat variety must have a structure harmonious with the local natural and cultivation conditions, and the creation of the most suitable structure and a cultivation condition which promotes the fullest expression of that structure is the joint responsibility of cultivation and breeding work.

AUTHOR: YANG Shicheng [2799 0013 2052]
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TITLE: "Preliminary Investigation of Ways of Comprehensive Prevention and Control of Wheat Stripe Rust Disease in Yunnan Province"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 25 Jan 82 pp 9-16

ABSTRACT: All 4 seasons may coexist in a mountain of Yunnan. The vertical distribution of weather causes areas only 10 li apart to be in a different season yet the condition is also favorable for growing wheat all year long. This vertical agricultural system also allows such specific parasitic pathogenes as wheat stripe rust to propagate all year long. In a bad year, such as 1981, stripe rust occurred in nearly one million mu of wheat fields, amounting to 13 percent of total wheat acreage. The epidemic has also caused major breeds to lose resistance and hence their utilization value. Following detailed analyses of physiological strains of stripe rust pathogenes, the hosts, and the special weather factors, the authors propose the following: (1) Dividing wheat breeds into groups according to their resistance to different physiological strains and never to use breeds of the same group consecutively to cut off the pathogenic chain; (2) Arranging breeds of different groups in individual wheat fields; (3) Before conditions for adopting these techniques are present, application of Bayleton, Tilt, or captafol should provide some relief.

AUTHOR: JIANG Zhinong [5592 1807 6593]
ZHOU Yuping [0719 3768 5393]
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ORG: [illegible] of Hubei Provincial Academy of Agricultural Sciences

TITLE: "Application of Combining Ability Analysis in Rice Breeding"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 25 Jan 82 pp 17-21, 16

ABSTRACT: Combining ability analysis has its origin in the heterosis utilization of hybrid corn. There have been different opinions among scientists with respect to its value in hybridization of such self-crossing crops as rice. This paper reports an experiment of diallel [di-allelic] crossing of 7 breeds of geng rice of different types for the purpose of analyzing the combining ability of major agronomic characteristics in F_1 and F_2 hybrids. Results indicate that the mean combining ability of F_1 may be used to predict the general combining ability of future offsprings. The specific combining ability of F_1 and F_2 does not correlate; therefore, it is not suitable to use F_1 for estimation. It appears that the degree of heterosis does represent the degree of specific combining ability, however. The important characteristic of yield per stalk may generally be ascertained in F_2 but not in F_1. Griffing (AUSTRALIAN J. BIOLOGICAL SCIENCE No 9, pp 463-493) maintains that the information gained from diallel designs is not much more than that obtained from the parents. The authors basically agree with him.

6248
CSO: 4011/49

Agricultural Experimentation

AUTHOR: None

ORG: Cereal Cultivation Office, Institute of Crops, Municipal Academy of Agricultural Sciences; Technology Extension Station, Municipal Bureau of Agriculture

TITLE: "Opinions Concerning Early Rice Yuanfengzao Cultivation Technique of 1982 in Shanghai Suburbs"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 5 Feb 82 pp 1-4

ABSTRACT: The booklet YUANFENGZAO YIELD INCREASE TECHNIQUE RULES was compiled in 1981 by the office in cooperation with various stations and in test fields of [illegible],000 mu, an average yield increase of 15 percent was obtained. Based upon the ideas proposed by the units which participated in the test, some revisions to the booklet have been made. The early xian breed Yuanfengzao is described as being highly temperature sensitive, having poor cold resistance and weak tillering ability. The plant is generally 75-85 cm in height. It has large spikes and numerous grains which are light in weight. In paddies of a yield of about 900 jin/mu, effective spikes are 300-350 thousand/mu, with about 75 grains/spike and 60-65 of them full. The grain test weight is 21.5-22.5 g. It has no resistance to white withering [bacterial leaf blight] and is moderately susceptible to banded sclerotial disease. Based upon these characteristics, the paper discusses at length the cultivation technique when it is used in a triple cropping system.

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ORG: [illegible] Cereal Cultivation Office, Institute of Crops, Municipal Academy of Agricultural Sciences

TITLE: "Early Growth and Development Characteristic of the Early Xian Breed, [illegible], and an Analysis of Its Utilization Value"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 5 Feb 82 pp 5-7

ABSTRACT: In suburbs of Shanghai, in a certain amount of acreage, the yield of late rice is low and unstable because of late transplanting. This occurs every year. If the large percentage of late ripening early rice breeds can be replaced making it possible to harvest the early rice crop earlier, this problem may be basically overcome. According to data supplied by Jinshan County, the early xian Chengqizao ripens about 3 days earlier than Yuanfengzao and the yield of the two is close. In 1980, the authors introduced it and experimented with it in the experimental farm of the academy and 2 other places. A greenhouse breed comparison experiment was also performed at the same time. Observed data of these experiments are reported in some detail.

AUTHOR: ZHANG Guoqiang [1728 0948 1730]
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ORG: Both of Institute of Crops, Shanghai Academy of Agricultural Sciences

TITLE: "Growth and Development Characteristics of Intermediate Ripening Early Xian Breed 77-6"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 5 Feb 82 pp 7-8

ABSTRACT: In 1976, the authors treated a single spike of an offspring of Kefuzao x Zhilishai with nitrogen molecule laser (wavelength 3371 Å) for 10 minutes to breed out the early rice strain 77-6 which was experimentally cultivated in some suburban counties in 1979. In 1981, tests were expanded to 5,000 mu in 5 nearby counties to produce various degrees of yield increase over the control, Yuanfengzao, about 5-1[illegible] percent. Its yield averaged 844-915.04 jin/mu, depending upon the previous crop. If it is green manure, its yield is similar to Guangluai No 4, but matures about 3 days earlier. According to the reaction of the masses, husking is easy for 77-6. Under the condition of low level of fertilizer and withdrawing water too early, the phenomenon of early withering is observed.

AUTHOR: WANG Yagu [3076 0068 6253]
ZHANG Jiaqi [4545 1367 7496]
PANG Jinhua [1690 6355 5478]

ORG: None

TITLE: "Cadmium Content and Contamination of Shanghai Soils"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 1, 5 Feb 82 pp 15-17

ABSTRACT: Cadmium is a toxic metal. It enters the food chain when the streams are contaminated by industrial liquid and solid wastes and the water of these streams is used for irrigation which causes the soils to be contaminated and the cadmium content [illegible] absorbed by crops. The authors carried out a survey in the past [illegible] by gathering representative water and soil specimens. After extraction to concentrate the cadmium content it is determined by atomic absorption. The cadmium content is found to be 0.18 ppm (It averages 0.1-1.58 in Japan, 0.4 in the USA, and 0.1-0.[illegible] in Canada.) The contamination is the severest in Mayibin of Pengpu where the acid soluble cadmium content of the soil is as high as 130 ppm. There are 3 local factories discharging cadmium-containing wastewater. In Chuansha County, the cadmium content of the silt is 28-84 ppm. As large quantities of silt are used as fertilizer, the rice and wheat are also contaminated. The ground water at [illegible] does not show obvious sign of contamination, however.

9248
CSO: 4011/48

Entomology

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[illegible] Peiyu [7895 0160 3842]
JIANG Lirong [1203 4539 2837]
ZHANG Meilin [1728 2734 2651]

ORG: All of the Institute of Zoology, Chinese Academy of Sciences

TITLE: "Effects of Nitrogen Fertilizer Application on the Cotton Plant and the Bollworm"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 1, 1982 pp 16-25

TEXT OF ENGLISH ABSTRACT: Experimental effects of different amounts of nitrogen fertilizer on the development and N content of the cotton plant and bollworm (*H. armigera*) in pots were examined. The application of ammonium sulfate ($(NH_4)_2SO_4$) to soil was in the order of 0, 2, 4, and 16 g/pot respectively at the flowering stages. After the application of $(NH_4)_2SO_4$, the total N in the soil tended to increase. Increasing N in soil enhanced the dry matter accumulations in both bolls and leaves and also their N content. When reared on bolls with increased N content, the bollworm had higher dry weight in the sixth instar larvae and, at the same time, the assimilation efficiency of food was enhanced. With increasing boll N content the total N content of the sixth instar larvae together with their faeces, as well as the female pupae, was raised gradually.

[Excerpt] [illegible] of KUNCHONG XUEBAO No 1, 1982 pp 16-23]

According to our data, it is evident that the application of N fertilizer would lead to the increase of the contents of the soil, the cotton plant and the cotton bollworm. The cotton plant may grow well, the bollworm larvae develop better, and higher cotton yield is inherently connected to heavier pest injury. Therefore, we must find the appropriate amount of fertilizer application to get better cotton production but effective control of the bollworm.

[illegible] [illegible] 1[illegible] 430)]

[illegible] Institute of Plant Protection, Hunan Academy of Agricultural Sciences

[illegible] "*[illegible]pterus spinolae* (Signoret), A Serious Reed Insect Pest (Hemiptera: Lygaeidae)"

[illegible] Beijing [illegible] XUEBAO [ACTA ENGOMOLOGICA SINICA] in Chinese No 1, 1982 [illegible]

[illegible] ENGLISH ABSTRACT. In the spring of 1979, about 80,000 mu of reed marshes at [illegible] in Yuanjiang County of Hunan Province were seriously damaged by the lygaeid bug *[illegible]pterus spinolae* (Sign.), which was hitherto unknown in our reed [illegible]. The lygaeid bug has two generations per year in the Tongting Lake Region. The adults hibernate in old decayed roots, withered bits and reed sheaths, or [illegible] the soil surface.

The [illegible] measures to suppress this pest are as follows: Dust 0.1 kg of 95 percent [illegible] powder per mu, or 2 kg of 1.5 percent methyl parathion + 3 percent BHC mixture powder per mu or 2 kg of 1.5 percent methyl parathion + 1.5 percent BHC + 1.5 percent Kitazin mixture powder per mu when a lot of adults appear in the damaged region in March and April. Use of chemical pesticides should be strictly controlled to protect natural enemies and keep natural ecological balance.

[illegible]
CSO: 4011/63

AUTHOR: XU Shixiong [1776 2508 7160]

ORG: Botany Department, University of Hong Kong

TITLE: "Cytochemical Localization of Acid Phosphatase Activity in the Aleurone Cells of Dry and Germinated Wheat Grains"

SOURCE: Shanghai SHIYAN SHENGWU XUEBAO [ACTA BIOLOGIAE EXPERIMENTALIS SINICA] in Chinese No 4, 1982 pp 349-361

TEXT OF ENGLISH ABSTRACT: Acid phosphatase activity has been localized using low temperature (4-5°C) glycol methacrylate embedding and cytochemical techniques in aleurone layers of dry and germinated (up to six days) wheat grains. In the dry grain a major fraction of the enzyme activity is located in the inner region of the walls, plasmodesmata and middle lamella of the aleurone cells. When the grain starts to germinate the aleurone cells show an increase in enzyme activity, especially at the wall sites nearest to the pericarp. But as germination proceeds for about three days, the side of the wall situated nearest to the endosperm begins to lose enzyme activity, followed by the other wall sites, until at about day six all the digested areas of the walls, plasmodesmata and middle lamella of the aleurone cells become completely destitute of enzyme activity.

In the aleurone cells of wheat, the routes for enzyme release are already present in the dry grain before germination. No "digested channels" that may act as

[Continuation of SHIYAN SHENGWU XUEBAO No 4, 1982 pp 349-361]

additional routes for acid phosphatase release are seen present in the walls of the wheat aleurone cells during germination.

Acid phosphatase activity is also present in the aleurone grains in both dry and germinated seeds, but the enzyme activity rapidly decreases when the aleurone grains become depleted of reserves at about day five of germination.

AUTHOR: LI Haozhi [2621 6275 0811]
LIN Zhenwu [2651 2182 2976]
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ORG: All of the Shanghai Institute of Plant Physiology, Chinese Academy of Sciences

TITLE: "Nitrate Reductase Activity of Seedlings in Different Rice (*Oryza sativa* L.) Cultivars"

SOURCE: Shanghai SHIYAN SHENGWU XUEBAO [ACTA BIOLOGIAE EXPERIMENTALIS SINICA] in Chinese No 4, 1982 pp 407-409

TEXT OF ENGLISH ABSTRACT: This preliminary study shows that the level of nitrate reductase activity (NRA) in rice is inheritable and varies widely in the leaves of young seedlings among 27 rice cultivars. *Oryza sativa* L. subsp. Hsien rice with lower tolerance of nitrogen fertilizer exhibits higher NRA, and *Oryza sativa* L. subsp. Keng rice with higher tolerance to nitrogen fertilizer exhibits lower NRA. The study on seven Keng rice cultivars further reveals a close relationship between NRA of leaves of seedlings and tolerance of cultivars to nitrogen fertilizer. This relationship is very useful to agricultural research. For example, it could be used as a criterion for selecting and developing cultivars, and also for appraising the tolerance of cultivars to nitrogen fertilizer.

9717
CSO: 4011/[illegible]

AUTHOR: [illegible] Zhaoan [5170 4801 1344]
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ORG: Both of the Cotton Research Institute, Chinese Academy of Agricultural Sciences, Anyang

TITLE: "Ovule Culture of Interspecific Hybrids from Diploid Wild Cotton x Tetraploid Cultivars and the Embryo and Seedling Development"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 1, 1982 pp 57-62

TEXT OF ENGLISH ABSTRACT: *Gossypium* spp. of diploid wild cotton, such as *Gossypium sturtianum*, *G. stocksii*, *G. thurberi*, *G. longicalyx* and *G. davidsonii*, have been crossed with tetraploid cultivars (*G. hirsutum*). Tetraploid cultivars of *G. barbadense* and *G. hirsutum* have been crossed with diploid cultivars of *G. arboreum*. The selfed upland cotton variety is used as the control. The ovules from hybrids and selfed cultivars developing two days after pollination (some developed one day after pollination) were cultured by static floating on the liquid medium in the darkness. After being cultured 50-70 days, embryos (including mature and immature ones) as well as seedlings from the mature embryo were obtained from seven crosses and the selfed cultivars with a certain frequency. Of these embryos, those from crosses with *G. sturtianum* and *G. stocksii* developed into plantlets. The experimental results indicate that the difference is significant between embryo frequency

[Continuation of YICHUAN XUEBAO No 1, 1982 pp 57-62]

and germination percentage of embryos with ovules cultured on different media. The resulting culture from ovules of different crosses but cultured on the same medium differs too. Embryo development with a certain frequency is obtained with ovules from *G. hirsutum* x *G. arboreum* and *G. barbadense* x *G. arboreum* one day after pollination.

AUTHOR: HUANG Zhiren [7806 1807 0088]

ORG: Jiangsu Agricultural College, Yangzhou

TITLE: "A Preliminary Study on the Heredity of Wheat Characteristics"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 1, 1982 pp 63-70

TEXT OF ENGLISH ABSTRACT: From an incomplete dialed design on 11 quantitative characteristics of the F_2 population of 12 wheat crosses, we have estimated the genetic variance components, degree of dominance and heritability. Our investigation showed that the genetic variance of the characteristics in F_2 hybrids was controlled mainly by the gene additive effect. The broad-sense heritability of the characteristics between crosses was higher, but the narrow-sense heritability shown in the spike numbers per plant, kernel number of primary spike and weight per 1000 grains was lower. The coefficients of variation were higher for the kernel numbers and kernel weight per plant and spike.

The selection of the cross and plants for characteristics in F_2 hybrids is discussed based on the experimental results.

AUTHOR: ZHANG Kongtian [1728 1313 3055/1815]
YU Hongyi [0265 3414 0308]

ORG: Both of the Institute of Genetics, Chinese Academy of Sciences, Beijing

TITLE: "Effect of High Temperatures on Fertility of the Male Sterile Lines in Sorghum"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 1, 1982 pp 71-77

TEXT OF ENGLISH ABSTRACT: Fertile yellow anther and normal seeds were produced from plants of male sterile lines in sorghum treated with high temperatures. The critical temperature was 39-40°C and it was the pollen-mother-cell stage that was sensitive to this effect.

Induction of fertile yellow anthers in male sterile lines by high temperatures revealed that the plants themselves contained the substances to form fertile yellow anthers, and the male fertile gene was normal even though it could be inhibited by some inhibitors. This was proved by isozyme electrophoresis band patterns of yellow fertile and white sterile anthers of male sterile lines in uninucleate pollen stages that were similar to those of the normal plants of the maintainers. When samples were taken at the trinucleate pollen stage, some bands of the white anthers disappeared while those of the yellow anthers of the male sterile line were still maintained as in male fertile lines, i.e., the maintainer.

AUTHOR: LIU Zhongyuan [0491 0112 0337]

ORG: Anhui Agricultural College, Hefei

TITLE: "The Study of Two Line Method in Maize (First Report)--Breeding for Nucleus Male Sterility of Maintenance, Double Heterozygote in Maize"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 1, 1982 pp 78-8[illegible]

TEXT OF ENGLISH ABSTRACT: Breeding for new double heterozygotes, starting from the reciprocal translocation and the nucleus sterility line in double backcross to acquire the double heterozygote, is a laborious and time-consuming process. In [illegible] we have used the double heterozygote as the female parent and the good line as the male parent in cross and backcross. Then selecting the pro-double heterozygote as the female parent among the hybrid later generation, and continuing its selfing or backcross, is a quick and effective method.

Nucleus male sterility depends on its high or low combinational ability, so the heterosis shows some differences. When the nucleus sterility line crosses with nine good lines, the yield of the hybrids is higher (11-93.2 percent) than the check.

9717
CSO: 4011/64

AUTHOR: [illegible]

ORG: Xingtai Prefecture Weather Station, Hebei Province

TITLE: "Some Aspects of the Long-range Forecasting Problem"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 1, 10 Jan 82 (pp 11-[illegible])

ABSTRACT: Whenever the temporal and spatial scales of long-range forecasting are being discussed, the ultra-long wave, large scale, long term adjustment process of the circulation is often overemphasized at the expense of the action of a sudden change of the circulation of a secondary scale and over a short duration. Correlation of alternate seasons, half-a-year effect, etc. are often emphasized and little attention is given to the special effect of a transition period. The correlation coefficient is carefully computed without ever taking into consideration the special actions of some specially correlated regions. While emphasizing the independence of each component factor, the correlation of all components of the entire circulatory structure is often overlooked. The paper discusses these problems in terms of the following subjects: (1) Relationship between sudden changes of circulation and drought and flood; (2) Optimal correlation of time and region with a period of change of the circulation; (3) Correlation of structural compoents of the atmospheric circulation. Drought and flood data of North China and the Qinghai-Xizang Plateau are used for the discussion.

AUTHOR: WANG Shizhong [3769 1709 1813]

ORG: Jiangsu Provincial Bureau of Meteorology

TITLE: "On the Improvement of Weather Forecasting at Meteorological Stations"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 1, 10 Jan 82 (pp [illegible])

ABSTRACT: On the basis of advancements achieved by weather forecasters of county weather stations of Jiangsu Province since 1958, this paper discusses those aspects in which the author believes the forecasters can continue to improve: (1) Profound understanding of the weather background: For example, the Wuxi County Weather Station divides the year into 11 weather periods to analyze the stability of pressure, temperature, and humidity characteristics of each period. (2) To make better use of mathematical tools, such as Boolean algebra, fuzzy mathmatics, the set theory, etc. (3) To use basic modern scientific reasoning, such as theories of physics, analog and probability, etc. as much as possible; (4) Seriously correlating the background situation of the entire atmospheric circulation.

AUTHOR: WANG Yongqin [3076 3057 2953]

ORG: None

TITLE: "Introducing a Method of Computing the Evapotranspiration Power of a Crop Field"

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 1, 10 Jan 82 pp 25-28

ABSTRACT: Computation and determination of the evapotranspiration power (ETP) of a field and the study on the moisture requirement of crops have been for a long time one of the important subjects of agricultural meteorology. The moisture coefficient, which is the ratio between rainfall and field evapotranspiration, $\frac{R}{ETP}$, or the differential between rainfall and field evapotranspiration, $D = R - ETP$, are often used to determine the moisture supply or the extent of drought or flood of a region. The ETP of a field is composed of many complex factors and is difficult to measure directly. For several decades, many scientists produced various indirect methods of computing it based upon studies of weather factors. This paper introduces the method used by H.F. Blaney and W.D. Criddle to determine the ETP of a crop field. The procedure they used in the calculation process and important elements involved are also reported. Aside from the major weather factor of temperature, the method also takes into consideration other influential factors, such as the relative humidity, the wind speed, the daylight hours, etc. This is the reason for its extensive adoption in many countries of the world. Shortcomings of this method are also discussed in some detail.

AUTHOR: LIN Mingzhi [2651 2494 2535]
PAN Hanming [3382 3352 2494]

ORG: None

TITLE: "When Winter Comes Early in October, South China Will Have Many Overcast and Rainy Days

SOURCE: Beijing QIXIANG [METEOROLOGICAL MONTHLY] in Chinese No 1, 10 Jan 82 pp 45-47

ABSTRACT: October is generally autumn days in China. On the average, there is less than one invasion of strong cold air. In Oct 81, there were 2 strong cold air activities, however, appearing on the 6th to 9th and the 20th to 23rd respectively, to cause strong winds and very cold weather in most regions. The temperature dropped [illegible]°C and the first frost appeared in central and southern parts of North China, northern Shaanxi, Shanxi, northern Hubei, and western Shandong. In southern Hunan, southern Jiangxi, Guangxi, Guangdong, and Fujian, there were also 2-3 wintry days. In most areas, the first frost came 15-20 days earlier, 2-9 days earlier than the earliest year in history. As far as rainfall is concerned, there was 5-9 percent less rain in most of the Northwest, North, and southern part of the Northeast, but 1-3 times as much in the other regions. The special circulation characteristics, the weather, the processes of the 2 cold air intrusions, the relative number of sunspots, and other meteorological factors of the month of October, 1981 are analyzed.

6248
CSO: 4011/62

AUTHOR: XU Zhaowu [6079 1415 0124]

ORG: Meteorological Research Institute of Shaanxi Province

TITLE: "Elementary Research on Damage to Rice Done By Low Temperatures in Hanzhong Basin of Shaanxi Province"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 1, 1982 pp 89-96

TEXT OF ENGLISH ABSTRACT: In this paper, by two comparative examinations and analysis of variance and regressive integration, the temperature scale of damage to rice done by low temperatures is calculated; the empirical formula for integration of yield forecast and the time function $a_j(t)$ which shows the influence of temperature on yield are established. Therefore, the quantitative relationship of rice yield and temperature distribution is revealed, and this will provide the foundation for steady and high production.

AUTHOR: WANG Xiaolin [3769 2556 2651]
YAN Bingyao [7051 4426 5069]

ORG: WANG of the Department of Geophysics, Beijing University; YAN of the Lanzhou Meteorological School

TITLE: "An Experiment of Numerical Forecasting of Subsynoptic System"

SOURCE: Beijing QIXIANG XUEBAO [ACTA METEOROLOGICA SINICA] in Chinese No 1, 1982 pp 97-106

TEXT OF ENGLISH ABSTRACT: In this paper, making use of observational data, the problem of numerical prediction for subsynoptic disturbance in summer is studied. By using the fine-mesh prediction model of five level primitive equations, the formation of subsynoptic cyclone which causes the heavy precipitation and intensification of the low level jet stream has been predicted successfully.

After a comparison of the different results of dry and moist models, the important effect of vapor in producing and developing these circulation systems is proved. The preliminary result indicates this disturbance is derived mainly from moist convection.

In addition, the influence of the initial vapor field on the prediction of precipitation and surface situation is also discussed. It is shown that an accurate description of the vapor field is necessary.

[illegible] tion of QIXIANG XUEBAO No 1, 1982 pp 97-108]

The experiment shows that the prediction results of precipitation will be improved if corrections and modifications of the initial vapor field are made by using the satellite cloud photographs.

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CSO: 4011/68

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